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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/684,417

10/15/2003

Dong-Soo Nam

102-1001

4388

38209 7590 07/02/2007
STANZIONE & KIM, LLP
919 18TH STREET, N.W.
SUITE 440
WASHINGTON, DC 20006

EXAMINER

MORRISON, THOMAS A

ART UNIT

PAPER NUMBER

3653

MAIL DATE

DELIVERY MODE

07/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/684,417

Applicant(s)

NAM, DONG-SOO

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment after final rejection of 3/2/2007 has been entered.
2. The indicated allowability of claims 1-25 is withdrawn in view of the newly discovered reference(s) to U.S. Patent No. 5,409,209 (Nakamura et al.) and Japanese Publication No. 3-293242. Rejections based on the newly cited reference(s) follow. The examiner regrets any inconvenience that may have resulted from this new Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites, "a supporting bracket **coupled at opposite ends thereof to the supporting plate...**" (emphasis added). This recitation appears to be inaccurate, in that Fig. 5 of the instant application appears to show a gap between the entire supporting bracket (255) and a supporting plate (253). See also numbered paragraph [0039] and Fig. 6 of the instant application. Also, it appears that only a middle portion of the supporting bracket (255) is connected to a middle portion of the supporting plate (253) via two spacing adjustment units (260), and the opposite ends of the supporting bracket (255) are **not** connected to the supporting plate (253). As such, further clarification is requested.

Claim 10 recites, "a supporting bracket having **opposite ends fixedly coupled to opposite ends of the supporting plate...**" (emphasis added). This recitation appears to be inaccurate for similar reasons as outlined above in the indefiniteness rejection of claim 1. As such, further clarification is requested.

Claim 19 recites, "a supporting bracket having **opposite ends mounted on the supporting plate...**" (emphasis added). This recitation appears to be inaccurate for similar reasons as outlined above in the indefiniteness rejection of claim 1. As such, further clarification is requested.

Claim 24 recites, "the supporting bracket **fixedly mounted at opposite ends thereof to the supporting plate...**" (emphasis added). This recitation appears to be inaccurate for similar reasons as outlined above in the indefiniteness rejection of claim 1. As such, further clarification is requested.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1, as best understood, is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,409,209 (Nakamura et al.).

Regarding claim 1, Figs. 1-12 show a paper-discharging apparatus (Fig. 5) used with an image-forming device (Abstract), the paper-discharging apparatus (Fig. 5) provided with paper-discharging rollers (11) and idle rollers (13) disposed in a paper-

Art Unit: 3653

discharging port side of the image forming device, in which a sheet of paper is discharged through the paper-discharging rollers (11) and the idle rollers (13), the paper-discharging apparatus comprising:

- a supporting plate (including 6) installed at the paper-discharging port side of the image-forming device (Fig. 5);

- a supporting bracket (including 61) coupled at opposite ends thereof (i.e., coupled via elements 69) to the supporting plate (including 6) to rotatably support the idle rollers (13) facing the paper-discharging rollers (11); and

- a spacing adjustment unit (Fig. 12) disposed between the idle rollers (13) to constantly maintain a contact pressure between the paper-discharging rollers (11) and the idle rollers (13). At least part of the spacing adjustment unit (Fig. 12) is located between each pair of idle rollers (13), which meets the limitations of claim 1.

5. Claims 10-18, as best understood, is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,265,869 (Morita).

Regarding claim 10, Figs. 1-4 show a paper-discharging apparatus (Fig. 4) to discharge a sheet of paper between a paper-discharging roller (8) and an idle roller (9) which are disposed in a paper-discharging port side of an image-forming device (Fig. 4), comprising:

- a supporting plate (including 5a, 5b, 5c and 5d) formed on the paper-discharging port side of the image-forming apparatus;

- a supporting bracket (7) having opposite ends fixedly coupled to opposite ends of the supporting plate (including 5a, 5b, 5c and 5d), respectively, and having a middle

Art Unit: 3653

portion formed between the opposite ends thereof, on which the idle roller (9) is rotatably mounted to contact the paper-discharging roller (8); and

a spacing adjustment unit (including 13 and 15) to flexibly couple the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7) to adjust a distance between the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7) when an external force is exerted on the supporting plate (including 5a, 5b, 5c and 5d). Regarding the recitation "a spacing adjustment unit to flexibly couple the supporting plate and the middle portion of the supporting bracket", the spacing adjustment unit (including 13 and 15) flexibly couples the supporting plate (including 5a, 5b, 5c and 5d) with an end portion of the supporting bracket (7) that is directly coupled with a middle portion of the supporting bracket (7). As such, the spacing adjustment unit (including 13 and 15) indirectly flexibly couples the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7). This arrangement meets the limitations of claim 10.

Regarding claim 11, Figs. 1-4 show that the spacing adjustment unit (including 13 and 15) controls the supporting bracket (7) to maintain a contact pressure generated between the paper-discharging roller (8) and the idle roller (9) constant while adjusting the distance between the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7).

Regarding claim 12, Figs. 1-4 show that the middle portion of the supporting bracket (7) is spaced-apart from the supporting plate (including 5a, 5b, 5c and 5d) by

Art Unit: 3653

the distance in a direction perpendicular to the paper disposed between the paper-discharging roller (8) and the idle roller (9).

Regarding claim 13, when the external force is exerted on one of the supporting plate (including 5a, 5b, 5c and 5d) and the supporting bracket (7), a portion of the supporting plate (including 5a, 5b, 5c and 5d) moves toward the middle portion of the supporting bracket (7) while a distance between the middle portion of the supporting bracket (7) and the paper-discharging roller (8) is maintained constant.

Regarding claim 14, Figs. 1-4 show that the spacing adjustment unit (including 13 and 15) comprises:

an elastic member (13) disposed between the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7) to elastically adjust the distance between the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7).

Regarding claim 15, Figs. 1-4 show that the spacing adjustment unit (including 13 and 15) comprises:

a plurality of elastic members (i.e., two springs 13) disposed between the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7) to elastically adjust the distance between the supporting plate (including 5a, 5b, 5c and 5d) and the middle portion of the supporting bracket (7).

Regarding claim 16, Figs. 1-4 show that the elastic members (13 and 13) are disposed between the opposite ends of the supporting bracket (7) at a predetermined interval.

Regarding claim 17, the elastic members (13 and 13) can be compressed by different amounts to have different amounts of elastic potential.

Regarding claim 18, Figs. 1-4 show that the supporting plate (including 5a, 5b, 5c and 5d) elastically moves toward the supporting bracket (7) according to an elasticity of the elastic member (13) while a distance between the paper-discharging roller (8) and the idle roller (9) is maintained constant.

6. Claims 19 and 21-23, as best understood, is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,265,869 (Morita).

Regarding claim 19, Fig. 5 and column 1, lines 1-68 disclose a paper-discharging apparatus (column 1, lines 14-16) to discharge a sheet of paper between a plurality of paper-discharging rollers (8) and a plurality of idle rollers (9), which are rotated by corresponding ones of the paper-discharging rollers (8) in an image-forming device (column 1, line 15), the paper-discharging apparatus comprising:

- a supporting plate (7) formed on a paper-discharging port side of the image-forming device;

- a supporting bracket (5) having opposite ends mounted on the supporting plate (7), and having a middle portion formed between the opposite ends, on which the idle rollers (9) are rotatably mounted to contact corresponding ones of the paper-discharging rollers (8); and

- a spacing adjustment unit (including 13) disposed between the middle portion of the supporting bracket (5) and the supporting plate (7) to flexibly couple the supporting plate (7) with the middle portion of the supporting bracket (5) to maintain a contact

Art Unit: 3653

pressure generated between corresponding ones of the paper-discharging rollers (8) and the idle rollers (9) regardless of an external force exerted on the supporting plate (7). Regarding the recitation "a spacing adjustment unit disposed between the middle portion of the supporting bracket and the supporting plate to flexibly couple the supporting plate with the middle portion of the supporting bracket", the spacing adjustment unit (including 13) is disposed between a plane passing through the supporting bracket (5) (i.e., a plane passing through the middle portion of the supporting bracket 5) and a plane passing through the supporting plate (7). Also, the spacing adjustment unit (including 13) flexibly couples the supporting plate (7) with an end portion of the supporting bracket (5) that is directly coupled with a middle portion of the supporting bracket (5). As such, the spacing adjustment unit (including 13) indirectly flexibly couples the supporting plate (7) and the middle portion of the supporting bracket (5). This arrangement meets the limitations of claim 19.

Regarding claim 21, Fig. 5 shows that the middle portion of the supporting bracket (5) is spaced-apart from the supporting plate (7) by a distance which varies according to deformation of the supporting plate (7).

Regarding claim 22, Fig. 5 shows that a distance between the middle portion of the supporting bracket (5) and the paper-discharging rollers (8) is maintained constant.

Regarding claim 23, the middle portion of the supporting bracket (5) will not be deformed in a direction perpendicular to an axis passing through a center of each of the paper-discharging rollers (8) while the supporting plate (7) is elastically deformed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,265,869 (Morita) in view of Japanese Publication No. 3-293242.

Regarding claim 1, Figs. 1-4 of the Morita patent show a paper-discharging apparatus (Fig. 1) used with an image-forming device (Fig. 4), the paper-discharging apparatus (Fig. 1) provided with paper-discharging rollers (8) and idle rollers (9) disposed in a paper-discharging port side of the image forming device (Fig. 4), in which a sheet of paper is discharged through the paper-discharging rollers (8) and the idle rollers (9), the paper-discharging apparatus comprising:

a supporting plate (including 5a, 5b, 5c and 5d) installed at the paper-discharging port side of the image-forming device;

a supporting bracket (including 7) coupled at opposite ends thereof to the supporting plate (including 5a, 5b, 5c and 5d) to rotatably support the idle rollers (9) facing the paper-discharging rollers (8).

Also, Fig. 1 of the Morita patent discloses a spacing adjustment unit (including 12 and 18 on both sides of rollers 9), but the Morita patent does not specifically show that such spacing adjustment unit is disposed between the idle rollers (9), as claimed.

Japanese Publication No. 3-293242 discloses that it is well known to provide a paper-discharging apparatus with a spacing adjustment unit (including 4, 6 and 9), in which element 9 and a spring are disposed between idle rollers (10) to constantly maintain a contact pressure between a paper-discharging roller (1) and the idle rollers (10). The English abstract for this Japanese reference explains that such an arrangement evens out the pressure distribution between the rollers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Morita apparatus with a spacing adjustment unit having elements located between the idler rollers (9) of the Morita apparatus for the purpose of evening out pressure distribution between rollers 8 and 9 of Morita, as taught by Japanese Publication No. 3-293242. Providing at least a portion of the spacing adjustment unit between the idler rollers (9) of Morita meets the spacing adjustment unit limitations of claim 1.

Conclusion

8. The fact that not all of the claims have been rejected in view of prior art is not an indication that such claims contain allowable subject matter. Rather, the independent claims 1, 10, 19 and 24 are too indefinite (i.e., inaccurate) to make any determination as to patentability of any of the claims.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

Art Unit: 3653

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on (571) 272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

06/28/2007


PATRICK MACKEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600